Amendments of the Claims

This listing of claims will replace all prior versions and listings of claims in the present application:

Listing of Claims

1. (currently amended) A method for initializing or zeroing an accumulator value comprising:

routing a first pair of input signals and a second pair of input signals to circuitry that is concentrated in a particular area of a programmable logic resource;

applying a multiply operation to the second pair of input signals using the circuitry;

applying a feedback output to the circuitry, wherein the feedback output is initially set to zero;

concatenating the first pair of input signals;

concatenating~~, in a first clock cycle,~~ the feedback output onto the end of ~~each signal of~~ the concatenated first pair of input signals ~~and the feedback output~~;

applying an accumulate operation on a result of the multiply operation with a result of the concatenating the feedback output ~~in the same first clock cycle~~; and

storing a result of the accumulate operation for use as an initialized or zeroed accumulator value.

2. (original) The method of claim 1 further comprising setting the first pair of input signals to zero.

3. (currently amended) The method of claim 2 wherein applying the accumulate operation comprises one of:

adding the result of the multiply operation to the result of the concatenating the feedback output; and

subtracting the result of the multiply operation from the result of the concatenating the feedback output.

4. (previously presented) The method of claim 1 further comprising:

setting the first pair of input signals to values that when concatenated in a predetermined order, comprises a first predetermined number of most significant bits of a non-zero initialization value; and

setting the second pair of input signals to values such that the result of the multiply operation comprises a second predetermined number of least significant bits of the non-zero initialization value.

5. (previously presented) The method of claim 4 wherein the first predetermined number and the second predetermined number comprise the non-zero initialization value.

6. (original) The method of claim 4 wherein the feedback output has a number of bits equal to the second predetermined number.

7. (currently amended) The method of claim 4 wherein applying the accumulate operation comprises adding the result of the multiply operation to the result of the concatenating the feedback output.

8. (currently amended) A method for initializing or zeroing an accumulator value comprising:

routing a pair of input signals to circuitry that is concentrated in a particular area of a programmable logic resource;

applying a multiply operation to the pair of input signals using the circuitry;

clearing a register in the circuitry based on at least one dedicated configuration bit that is set;

applying a feedback output to the circuitry, wherein the feedback output is initially set to zero;

concatenating~~, in a first clock cycle,~~ the feedback output onto the end of the contents of the register ~~with the feedback output~~;

applying an accumulate operation on a result of the multiply operation with a result of the concatenating the feedback output ~~in the same first clock cycle~~; and

storing a result of the accumulate operation for use as an initialized or zeroed accumulator value.

9. (original) The method of claim 8 wherein the dedicated configuration bit is set by user input.

10. (currently amended) The method of claim 8 wherein applying the accumulate operation comprises one of:

adding the result of the multiply operation to the result of the concatenating the feedback output; and

subtracting the result of the multiply

operation from the result of the concatenating the feedback output.

11-24. (Cancelled)